Earth: A User's Guide (EER 1000)
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TEST 2

Short Answer Questions

1. Describe and explain with examples the negative effects of irrigation.

Irrigation is the application of water for crops. With the industrialization of agriculture there has been increasing complexity of farming practices and increase in the demand for water. There are a number of negative implications of irrigation some of which can be managed to reduce impacts. If irrigation occurs without allowing the soil drain adequately, water pools at the surface and then evaporates. Over long periods of time, salts accumulate at the surface leading to the salinization of soils. Most vegetation does not grow in salinized soils leading to the reduction of vegetation grow both crops and wild vegetation. This can become more serious leading to desertification. Without vegetation soil is exposed and is subject to erosion. Excessive irrigation can over extract water from rivers and lakes causing water levels to be lowered. One example of this is the Aral Sea that is an inland lake normally fed by two major rivers (Amu Darya and Syr Darya). These rivers were diverted for irrigation causing the lake to shrink significantly. In addition as water levels were lowered the lake also became more saline. Irrigation of agricultural land can also cause runoff contaminated with agricultural chemicals, fertilizers, and animal waste. Nutrients such as nitrogen when washed into rivers and lakes can cause overgrowth of algae leading to eutrophication.

2. Describe and explain the causes and effects of globalization.

Globalization is a complex combination of economic, political and cultural change. It was initially limited to some segments such as finance and involves the accumulation of possessions. Since the 1980s it has accelerated and this has led to even more rapid changes. It relies heavily on inexpensive manufacturing of goods such as shirts, toys and now electronics. In the 1990s this led to specialization and product concentration. Product concentration is the control of markets by single corporations such as planes, engines and microprocessors. This has also led to a decline in national dominance in industries. This also relies on highly mechanized facilities owned by few companies. The causes of globalization include efficient transportation that overcomes distance more easily, and international (technologically-based) communications. It is also caused by the increased dominance of transnational corporations that are not confined to one state and may be more powerful than some governments. The effects of globalization include the homogenization of cultures resulting in the suppression (or masking) of diversity, uniformity of cultural landscapes, and the spread of English. There is also increased connectedness (which is both a result and cause). Goods and information is traded in greater volumes and at faster speeds. Greater interdependence also occurs that could promote stability.

Globalization has had some negative impacts on developing nations especially regarding inequity. It has the potential to exert significant control on populations and aggravates environmental problems. It promotes export-oriented economies often to generate hard currency to pay off foreign debt.

Fill-in the blank Questions

1. A wind turbine that can harness wind from any direction to generate energy is referred to as a VERTICAL AXIS turbine. [2 words]

2. The large repeating molecules upon which plastics are based are referred to as POLYMERS.

3. Plastic that softens on heating is referred to as THERMOPLASTIC .

4. The plastic additives that are used to make plastics flexible and squeezable are referred to as PHTHALATES (also ELASTOMERS).

5. The line on the world map that represents the inequity of "North" and "South" is referred to as the BRANDT LINE [2 words]

6. Cities with over ten million people are referred to as MEGACITIES.

7. The conversion of low quality inner city residences to costly, attractive residential areas is referred to as GENTRIFICATION.

8. The lack of sufficient nutrition in human populations is referred to as

   MALNUTRITION/MALNOURISHMENT.

9. A species in an ecosystem that plays such an important role that if it is lost the

   whole ecosystem suffers is referred to as a KEYSTONE species.

10. The lack of oxygen in some areas of the oceans that can suffocate organisms is

    referred to as HYPOXIA.

Multiple-choice Questions

1. Geothermal heat to generate electricity is associated with which of the following Earth features?
    a. Oceans
    b. Lithospheric plate boundariesX
    c. The biosphere
    d. Wind
    e. Tides

2. Energy generation through hydrogen is associated with which of the following areas of energy demand?
    a. Heating homes
    b. Industrial manufacturing
    c. TransportationX
    d. Processing biofuels
    e. Processing fossil fuels

3. Plastic coatings on materials such as paper and cardboard are referred to as:
    a. Elastomers
    b. Composites
    c. Polymers
    d. LaminatesX
    e. Resins

4. A common use for Polyvinyl chloride (PVC) is:
    a. Grocery bags

b. Bubble wrap
c. Plastic wrap
d. Soda bottles
e. Building materialsX

5. Endocrine disrupters from plastics are thought to mimic:
    a. Nutrients
    b. EstrogenX
    c. Toxins
    d. Testosterone
    e. Thyroid activity

6. Plastics were invented to replace which of the following materials in some applications?
    a. metal
    b. wood
    c. bone
    d. ivoryX
    e. glass

7. Plastics numbered 2 and 4 are also known as:
    a. Polyethylene terephthalate (PET)
    b. PolyethyleneX
    c. Styrofoam
    d. Polystyrene
    e. Polypropylene

8. Which country will take over from China as the world's most populated country by around 2025?
    a. United States of America
    b. Democratic Republic of Congo
    c. IndiaX
    d. Bangladesh
    e. Nigeria

9. The average number of children that a woman will have during her fertile years is measured by the:
    a. Total FertilityX
    b. Crude Birth Rate
    c. Rate of Natural Increase
    d. The Demographic Transition
    e. Growth Rate

10. Which of the following is NOT an example of a city with a squatter settlement?

a. Mexico City
b. TokyoX
c. Lagos
d. Mumbai
e. Jakarta

11. Who predicted that the future of humanity would be that of "famine, conflict and misery"?
    a. Thomas MalthusX
    b. Garrett Hardin
    c. Charles Darwin
    d. M. King Hubbert
    e. Thomas Friedman

12. The 1951 Convention on Refugees excludes which of the following types of refugee?
    a. Environmental
    b. Economic X
    c. Agricultural
    d. Disaster
    e. Political

13. The spread of cities in industrialized western countries into surrounding rural areas is referred to as:
    a. spread
    b. spam
    c. slumming
    d. sprawlX
    e. squatting

14. Cities are vulnerable to disaster for all of the following reasons EXCEPT:
    a. There is a high concentration of people
    b. They tend to have areas with poor housing
    c. They have high concentrations of business which distracts from rescue effortsX
    d. They are difficult to evacuate
    e. After disasters without adequate infrastructure the population may be prone to disease.

15. What is one of the problems associated with poor living conditions in the slums of Mumbai?
    a. Hot weather
    b. Frequent floodingX
    c. Landslides
    d. Unstable swamp land

e. Congested highways

16. Which of the following crops was NOT brought to Western Europe from the Americas?
    a. Potatoes
    b. Tomatoes
    c. Sunflowers
    d. Tobacco
    e. RiceX

17. Fallowing is an agricultural technique that is characterized by which of the following practices?
    a. Applying animal waste
    b. Terracing sloped fields
    c. Leaving fields unused for a period of timeX
    d. Contour ploughing
    e. Mulching with crop residues

18. Iron deficiency in humans leads to which of the following problems?
    a. Blindness
    b. Reduced resistance to disease
    c. AnemiaX
    d. Iodine disorders
    e. Brittle bones

19. Which of the following is an example of an amber box activity?
    a. Agricultural training
    b. Income stabilizationX
    c. Food aid
    d. Zero tillage
    e. Use of ammonia-based fertilizer

20. Of the following crops, which is pollinated by insects?
    a. Beans X
    b. Wheat
    c. Rice
    d. Corn
    e. Peanuts

21. The correct term to describe the loss of a species from an area while it still lives in another area is:
    a. Extinct

b. ExtirpatedX
c. Ecologically extinct
d. Endangered
e. Rare

22. The Californian Condor is an example of which of the following types of species?
    a. Common
    b. Ubiquitous
    c. Extinct
    d. Extirpated
    e. Ecologically extinctX

23. Which of the following types of marine reserves is most effective for fisheries management?
    a. Small
    b. MediumX
    c. Large
    d. Close to coastlines
    e. Far away from coastlines

24. What is biophilia?
    a. The philosophy that describes the Earth as if it is one whole organism
    b. The view that humans and the land are parts of the same community
    c. The emotional connection of humans to other animalsX
    d. The loss of interest of children in nature and other animals
    e. The growing fear people have of nature and other animals

25. Which of the following is likely NOT the cause of the decline in honeybees?
    a. Contaminated corn syrup
    b. Climate changeX
    c. Pathogens
    d. Pesticides
    e. Infection by a virus

26. The Gini Coefficent is a measure of which of the following concepts?
    a. Foreign debt
    b. Globalization
    c. Outsourcing
    d. InequalityX
    e. Economic activity

27. Which of the following countries has the largest foreign debt in the world?
    a. India

b. China
c. USAX
d. Brazil
e. Egypt

28. Which of the following animals is under greatest threat from Oil Palm expansion
    a. Dodo
    b. Gibbon
    c. OrangutanX
    d. Frogs
    e. Sea otters

29. The dominance over the production of single products by a low number of powerful corporations is referred to as:
    a. Recession
    b. Homogenization
    c. Malthusian trap
    d. Glocalization
    e. Product concentrationX

30. The recycling of waste such as electronics and shipbreaking takes place in regions of some developing countries because:
    a. there is pressing local need for the recycled materials
    b. the people who undertake the recycling are well compensated
    c. it is far more expensive to recycle these items in more developed countriesX
    d. these are the regions that produced these items in the first place
    e. it is really easy and safe work